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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,732	08/28/2003	Hidehiko Funaoka	010312A	5706
23850 7590 04/10/2008 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005			EXAMINER VARGOT, MATHEU'D	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 04/10/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/649,732

Applicant(s)

FUNAOKA ET AL.

Examiner

Mathieu D. Vargot

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-31 and 33 is/are pending in the application.
- 4a) Of the above claim(s) 30 and 31 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 and 33 is/are allowed.
- 6) ☒ Claim(s) 12-21 and 23-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-14, 16-21 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takita et al, either alone, or further in view of either of Shimoda et al (see col. 26, line 7 through col. 30, line 36; in particular col. 26, lines 24-32) or Wang (see col. 11, line 36 through col. 12, line 36).

Takita et al is applied essentially for reasons of record, the reference disclosing the basic claimed process lacking essentially the aspect of the solvent being "hot". Note that the way claim 12 is drafted, the instant treatment step would include the solvent-removing step disclosed at column 6, lines 47-60 of Takita et al. I.e., claim 12 would include employing a solvent to remove the solvent in which the polyolefin is extruded. It is submitted that one of ordinary skill in the art would have found it obvious to use a "hot" solvent in the solvent-removing step of Takita et al, since it is well known that heating a solvent gives it better solvating and penetrating properties. Hence, instant claim 12 is submitted to be obvious over Takita et al alone. Additionally, both Shimoda et al and Wang disclose heating treatments for porous membranes using a "hot" solvent and these references disclose that the treatment improves the properties of the membrane (Wang) and stabilize the membrane for use at high temperatures (Shimoda et al, see col. 26, lines 24-32). While the secondary references employ the hot solvent treatment on membranes made of polymers other than polyolefin, it is submitted that

such treatment would also have beneficial effects on polyolefin membranes, absent a showing to the contrary.

2.Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takita et al in view of either of Shimoda et al (see col. 26, line 7 through col. 30, line 36; in particular col. 26, lines 24-32) or Wang (see col. 11, line 36 through col. 12, line 36). Claim 15, which does require the hot solvent treatment to follow a solvent-removal step, is rejected essentially for reasons of record as noted in paragraph 1, supra. In this case, the secondary reference would be needed to show such a hot solvent treatment.

3.Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant's comments concerning previously applied Asami et al are moot in view of the newly applied art. While Asami et al may have been particularly directed to forming cation exchange columns, newly found Shimoda et al and Wang are not and the hot solvent treatments in these references appear to be more general treatments that would be applicable to other polymeric porous membranes. Again, it is noted that claim 12 is not drafted in a manner that precludes the instant hot solvent treatment from being an (extrusion) solvent removal step, and hence Shimoda et al and Wang are not necessarily required to reject claim 12 and its dependents.

4.Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.

Art Unit: 1791

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on 571 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot
April 4, 2008

/Mathieu D. Vargot/
Primary Examiner, Art Unit 1791